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ABSTRACT

A study was conducted at the Community College of Philadelphia (CCP) to evaluate the college's effectiveness in developing students' self-confidence and sense of individual responsibility. Two paper-and-pencil instruments were selected for use in the study: the Self Concept Scale (SCS), which measured decision making, interpersonal relations, responsibility, citizenship, and career planning; and the Affective Perceptions Inventory (API), which measured school perceptions and self-concept. The instruments were completed in class or at graduation rehearsal, with 601 students responding to the SCS and 613 completing the API. Study findings included the following: (1) analysis of SCS responses indicated that sophomores rated their level of self-concept significantly higher than freshmen, with the largest differences associated with decision making and interpersonal relations; (2) freshmen rated themselves lowest in the areas of decision making and interpersonal skills and highest in citizenship and responsibility; (3) sophomore ratings on the API scale were significantly higher on all subscales than those of freshmen; and (4) the difference between the ratings of freshmen and sophomores was greatest for students in non-General Studies programs. (UCM)

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STUDENT GROWTH IN SELF CONCEPT

Community College of Philadelphia

Institutional Research
Report #36

December, 1986

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Background

The basis for this research project was a charge given to the Institutional Effectiveness Task Force several years ago. This task was the identification of institutional effectiveness measures related to student outcomes that went beyond traditional measures such as transfer or graduation rates.

The members of the Task Force, at that time, developed several recommendations, one of which was the need to determine if student growth occurs in affective areas during enrollment at CCP. An extensive list of potential areas of personal development was compiled. The Objectives for General Education, prepared by the General Education Task Force, served as the source document for selecting the most appropriate non-cognitive areas of expected student development from the original list. For a first attempt, the Committee focused specifically on Objective 10, which states, "Students should develop self-confidence and a sense of individual responsibility."

A literature review and conversations with colleagues from other colleges and universities indicated that in spite of the expectation that students will experience personal growth through their educational involvement at their institutions, few schools have attempted to evaluate student development in affective areas. Most of the research of this type has been conducted at bachelor-degree granting institutions. Astin (1978), for example, found that after four years of college, students had more positive self-images, and a greater self-awareness and understanding of their abilities and limitations. Terenzini et al. (1981) found that most personal development of students enrolled at a four-year college occurred during their freshmen and sophomore years. They also found that informal out-of-class interactions with faculty members contributed to gains in personal growth.

The lack of success in locating a replicable community college research model necessitated starting from scratch in designing a study that would evaluate institutional effectiveness in achieving the commitment to the development of student self concept.

Instrumentation

After an extensive search, a small committee of the Task Force identified two paper and pencil instruments that came closest to measuring self concept, as defined in our institutional documents. The Self Concept Scale (SCS), the shorter of the two surveys, consisted of five subscales; Decision Making, Interpersonal Relations, Responsibility,

Citizenship and Career Planning. The survey contained 50 items totally, 10 for each subscale. Responses fell along a six-point scale, one indicated a highly unfavorable response, while a six indicated a highly favorable response.

The second instrument was the Affective Perceptions Inventory (API), which consisted of three subscales: Student Self, School Perceptions and Self Concept. The scale consisted of 84 items, 25 items were associated with the Student Self and Self Concept subscales and 34 items were included in the School Perceptions subscale. The response categories in this instance were one to four. The lowest value was least positive, the highest value was most positive.

A secondary issue that was addressed by the Committee in this study was the appropriateness of these instruments for our institution. These recommendations appear in Appendix A.

Methodology

The SCS and API were pilot-tested during the last half of the Spring 1986 semester. Classes, which served as the sampling unit, were stratified by day/evening, and 100-/200-level in order to insure an appropriate mix within the sample.

In all, 60 sections of classes were randomly selected for participation, 30 received the SCS and 30 the API.

Instructors were requested to allow class time for completion of the 20-minute surveys and instructed to return the forms to the Institutional Research Office. A two-week period during the semester was given as a time frame for class participation. Replacement classes were chosen in the few cases where instructors were unable to participate because of limited class time.

In addition to class participation, a second survey sampling technique was used in this study. Spring 1986 graduates who attended commencement rehearsal were requested to complete one of the two surveys. The data collection techniques used in this study therefore provided a broad perspective of student self concept ratings. The classroom surveys provided new and continuing student information, while the commencement rehearsal surveys rounded out the data with graduate information.

A total of 601 students completed the SCS and 613 filled out the API. Based on enrollment on-campus, the number of participating students (1,214) represented approximately 11.3% of the Spring 1986 student body.

Data Analysis

Data analysis proceeded from a value-added perspective. Since a longitudinal study design was not possible because of time and financial constraints, a cross-sectional analysis was undertaken. Students enrolled in Spring 1986 were dichotomized into those who completed fewer than 25 registered hours as of Spring 1986 and those who completed 25 or more hours. For analytic purposes, students in the former group were labeled freshmen and those in the latter group were considered to be sophomores.

Scale results were analyzed separately for two program categories: General Studies and all other College curricula. This curriculum breakdown was used for several reasons. General Studies was selected for separate analysis because of the current institutional interest in redesigning the curriculum. Any evaluative information concerning the strengths or weaknesses of the program will hopefully promote understanding and positive change in this effort.

Methodological concerns about sample sizes restricted the definition of the comparison group to all other College curricula.

In terms of main effects, it was hypothesized that from an institutional effectiveness perspective, sophomores in general would rate their level of self-concept higher than freshmen. Based on differences in academic trends of General Studies and non-General Studies students that were reported in the General Studies Academic Audit, it was hypothesized that sophomores in non-General Studies programs would report higher levels of self-concept than General Studies sophomores.

Profile of Sample

Cumulative earned registered hours as of Spring 1986 were used to measure the passage of time in this study. Summary statistics that reflect the distribution of this variable in the sample appear in Figure 1.

FIGURE 1

Mean and Median Cumulative Registered Hours Completed by Freshmen and Sophomores

	Mean	Median
Freshmen	13.9	14.0
Sophomores	56.7	53.0

Based on Figure 1 information, it appears that the approach used to define the study groups was successful in splitting the sample into two discrete, heterogeneous groups. Freshmen and sophomore means and medians are sufficiently different to insure the two groups differed with regard to the extensiveness of instructional time they have experienced at CCP.

Additional demographic and academic information was included in the data set in order to build a profile of the samples.

- Nearly two-thirds (65.6%) of the freshmen sample and almost three-quarters (72.5%) of the sophomore group were females. The median age for freshmen was 22, 26 for sophomores.

- Fifty-two percent (52%) of the freshmen were Black, 32% White, 10.2% Asian and 4.4% Hispanic. Among the sophomore sample, 59% were Black, 30% White, 4.8% Asian and 4.9% Hispanic. The percentage of freshmen and sophomores with an unknown race status was 1.4% and 1.3%, respectively.

- Thirty-two percent (32%) of the freshmen sample and 38% of the sophomores were enrolled full-time during the Spring 1986 semester.

- Both freshmen and sophomore groups had a median reading placement score of 31.

- The median cumulative grade point average calculated over all enrolled semesters up to Spring 1986 was 2.5 for freshmen and 2.7 for sophomores.

Based on previous Institutional Research, these sample student profiles appear to be fairly representative of on-campus, College-wide Spring 1986 enrollments. Notable exceptions are the over-representation of Asian students among the freshmen sample (ESL course sections were somewhat over-represented among the sampling units).

Compared to College-wide figures, the median reading placement test scores for the sample are rather high, especially for freshmen, indicating that the study results may not accurately represent Project II students.

Full-time students may be slightly under-represented in the samples.

Results

Student Self Concept scores were computed for both freshmen and sophomore samples. Several inappropriate subscale items were eliminated from both instruments during data analysis. Subscale and total scale figures were calculated by summing across associated scale items and dividing by the number of items used to construct the subscales. The original range and interpretation of the scale was therefore unchanged, one to six for the SCS and one to four for the API. Higher scores on both scales indicate more positive feelings of self concept. Surveys with missing item information were eliminated from the associated subscale analyses.

The major focuses of analytic interest were the differences between sophomore and freshman self-ratings, and the relative scale positions of freshmen and sophomore ratings.

Self Concept Scale

Results of the total Self Concept Scale indicate that sophomores rate their level of self concept significantly ($p<.05$) higher than freshmen (Table 1) The calculated difference between the two ratings is 0.1918 (Table 2).

Analyses of individual subscales indicate that the largest difference between sophomore and freshmen ratings is associated with Decision Making (.03466), followed in magnitude by differences on the Interpersonal Relations (0.2399), Responsibility (0.1299), Citizenship (0.1174) and Career Planning (0.104) subscales. The first three subscale differences were significant.

In terms of position on the scales, freshmen rate themselves lowest in the area of Decision Making and Interpersonal Skills and highest in Citizenship and Responsibility. It is therefore not surprising that the highest sophomore ratings were also in Citizenship and Responsibility. It is interesting that freshmen ratings on the Decision Making and Interpersonal Relations subscales were considerably lower than the other freshmen subscale ratings, but the sophomore ratings in these areas eventually converged with the other sophomore ratings.

TABLE 1

Average Student Self Concept Scores for Freshmen and Sophomores

Scale	F Program Ratio	N F	N S	6 1 5 1 4 1 3 1 2 1 1
Decision Making	16.06***	102	427	S—F
Interpersonal Relations	6.69**	108	455	S—F
Responsibility	4.26*	111	450	S F
Citizenship	2.93	99	401	SF
Career Planning	2.23	106	400	SF
Total Self Concept Score	9.99**	84	334	SF

F = Freshmen
S = Sophomores
* p<.05
** p<.01
*** p<.001

TABLE 2

Difference Between Average Sophomore and Freshmen Self Concept Scale Scores

Scale	Mean Difference
Decision Making	+ 0.3466
Interpersonal Relations	+ 0.2399
Responsibility	+ 0.1299
Citizenship	+ 0.1174
Career Planning	+ 0.1040
Total Score	+ 0.1918

Based on results of this survey, it appears that CCP students' decision-making and interpersonal relations skills are the most dynamic over the course of their CCP enrollment. Career planning is clearly the weakest area of student progression with little demonstrated difference in freshmen/sophomore ratings.

Affective Perceptions Inventory

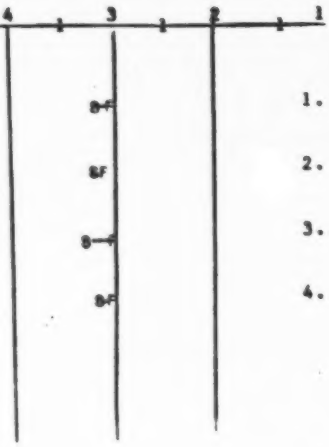
Results of the Affective Perceptions Inventory (Table 3) in many ways parallel those of the SCS. Sophomore ratings on the Total Scale are significantly higher than freshmen ratings. Differences on the three subscales were all in the expected direction. Freshmen/sophomore differences were significant on the Student Self and Self Concept subscales. The third subscale, School Perceptions, produced a small, non-significant difference in the expected direction.

Freshmen rate themselves at approximately the same point on the Total Scale and the Self Concept and Student Self subscales. They rate themselves slightly higher on the School Perceptions Scale. Sophomore positioning is more heterogeneous across the scales. Sophomores rate themselves highest on the Student Self Scale, followed in order of magnitude by the Decision Making and School Perceptions subscales.

TABLE 3

Average Affective Perceptions Inventory Scores
for Freshmen and Sophomores

	Scale	F Ratio	M F	M S
1.	Self Concept	6.08*	105	412
2.	School Perceptions	0.27	112	377
3.	Student Self	13.68***	124	420
4.	Total	5.58*	90	330



F = Freshmen
S = Sophomores
* p<.05
** p<.01
*** p<.001

TABLE 4

Differences Between Average Sophomore and

Freshmen Affection Perception Inventory

Scale	Mean Difference
Self Concept	+ 0.1172
School Perceptions	+ 0.0230
Student Self	+ 0.1538
Total Score	+ 0.0987

Scale Results for General Studies Versus Other College Curricula

Slightly more than one-quarter (27.5%) of the overall sample was enrolled in General Studies in the Spring 1986 semester. Fifty-six percent (56%) of the freshmen sample was General Studies, while considerably fewer of the sophomore (20.9%) students were classified in this group. This may be due to the shorter retention rates associated with General Studies students and the tendency to use General Studies as a temporary curriculum choice for many of the aspiring selective College program students.

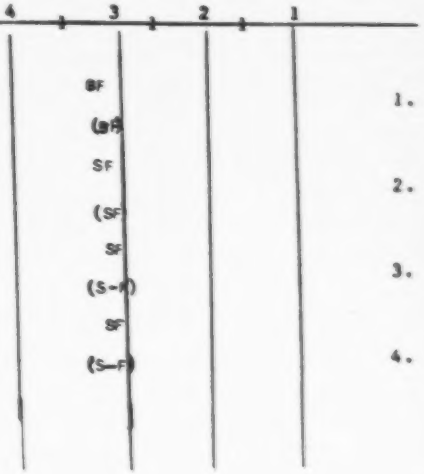
Survey results for the two curricular groups appear in Tables 5 through 8.

The difference between freshmen/sophomore Total Self Concept ratings is greater for students in non-General Studies programs. This result was consistent over the analysis of both instruments.

TABLE 5

Average Affective Perceptions Inventory Scores for Freshmen and Sophomores Broken Out by General Studies and All Other Programs

Scale	Program	F Ratio	N F	N S
1. Self Concept	General Studies	0.71	55	70
	(Other)	(3.50)	50	342
2. School Perceptions	General Studies	0.46	61	55
	(Other)	(0.15)	51	322
3. Student Self	General Studies	1.14	68	70
	(Other)	(10.26)**	56	350
4. Total	General Studies	0.74	50	47
	(Other)	(2.91)	40	282



F = Freshmen
S = Sophomores
* p<.05
** p<.01
*** p<.001

TABLE 8

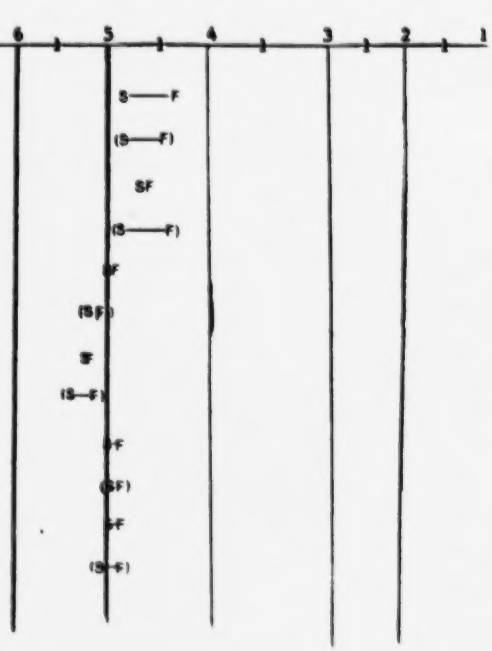
Difference Between Average Sophomore and Freshmen Affective Perception Inventory Scores Broken Out by General Studies and All Other Curricula

Scale	Mean Difference: General Studies	Mean Difference: Other Curricula
Self Concept	+ 0.0644	+ 0.1242
Interpersonal Relations	+ 0.0599	+ 0.0239
Student Self	+ 0.0663	+ 0.1939
Total	+ 0.0554	+ 0.1039

TABLE 6

Average Self Concept Scale Scores for Freshmen and Sophomores Broken Out By General Studies and All Other Programs

Scale	Program	F Ratio	N F	N S
1. Decision Making	General Studies	8.77**	57	90
	(Other)	(4.02)*	(45	337)
2. Interpersonal Relations	General Studies	0.35	60	94
	(Other)	(7.37)**	(48	361)
3. Responsibility	General Studies	0.46	61	85
	(Other)	(1.13)	(49	364)
4. Citizenship	General Studies	0.37	55	75
	(Other)	(3.05)	(43	326)
5. Career Planning	General Studies	2.01	58	76
	(Other)	(1.47)	(48	323)
6. Total Self Concept Score	General Studies	1.71		
	(Other)	(6.55)**	(37	274)



F = Freshmen
S = Sophomores
* p<.05
** p<.01
*** p<.001

TABLE 7

Difference Between Average Sophomore and Freshmen Self Concept Scale Scores Broken Out by General Studies and All Other Curricula

Scale	General Studies	Other Curricula
Decision Making	+ 0.4167	+ 0.244
Interpersonal Relations	+ 0.0782	+ 0.371
Responsibility	+ 0.0707	+ 0.0935
Citizenship	+ 0.0222	+ 0.1722
Career Planning	+ 0.1509	+ 0.1195
Total	+ 0.1299	+ 0.2203

Analyses of the survey subscales indicated a similar pattern of differences over curricular types. The Interpersonal Relations (SCS), Citizenship (SCS) and Student Self (API) subscales yielded the most interesting comparative information.

The most striking difference between the two groups is in the area of Interpersonal Relations (SCS). Clearly, the largest difference (0.371) in freshmen/sophomore ratings for all other programs was associated with this subscale. By comparison, the General Studies difference (0.0782) was modest. It is also interesting that while non-General Studies freshmen ratings in this area were lower than their General Studies counterpart, the non-General Studies sophomore rating exceeds the General Studies sophomore rating.

Group differences were also considerable on the Citizenship (SCS) subscale. While freshmen ratings across groups were approximately the same, non-General Studies sophomore ratings were considerably higher than General Studies sophomore ratings.

The same pattern appears in the analysis of the Student Self (API) and Self Concept (API) subscales.

On the Decision Making (SCS) subscale, there were sizable demonstrated differences in freshmen/sophomore ratings for both curricular groups, slightly larger differences were associated with the General Studies group.

General Studies students also exhibited a larger freshmen/sophomore difference in the area of Career Planning (SCS). In fact, Career Planning and School Perceptions (API) were the only areas in which General Studies sophomore ratings exceeded those associated with non-General Studies sophomores.

Responsibility (SCS) and School Perceptions (API) represented areas of weak performance for both groups.

Discussion

This study was a first attempt to understand non-cognitive student outcomes at CCP. While the differences in student ratings at two points in time were modest, they were uniform over two independent survey instruments, significant in a number of cases and consistent with the College Mission Statement, the General Education Objectives and the results of research conducted by others.

The quasi-experimental nature of this research necessitates a cautious approach in the analysis of results. While the use of a cross-sectional sample does not allow for the interpretation of dependent variables as student gains per se, it does allow for legitimate comparison of two discrete student groups who differ in a variety of ways, most importantly in terms of length of CCP enrollment.

The results of this study appear more credible when viewed in concert with the research findings of Astin and Terenzini, which appear in a previous paragraph, and with previous CCP Institutional Research. The General Studies Academic Audit indicated that despite the fact that General Studies students enter the College with abilities that are essentially the same as students in other programs, their academic performance, as measured by graduation rate, GPA and transfer outcomes are significantly lower.

These trends in academic differences for students enrolled in General Studies and other college programs appear to hold up in the non-cognitive realm as well. Terenzini demonstrated the importance of informal, out-of-class faculty interaction in the development of student personal growth. The following point was raised in the General Studies Audit and appears to support Terenzini's observation: "Placing students in the General Studies program reduces the possibility for more extended contact with a small group of faculty that frequently occurs in the other program areas. All General Studies students should perceive that they are being supported or mentored by some individual or group within the College." The results of this non-cognitive study reinforce the importance of this suggestion.

This first effort to explore student gains in non-cognitive areas has proven to be a productive exercise. Future research in this area could be improved in several ways. A longitudinally designed study in which individual students are tracked over time would yield actual measures of student gains which would be a preferable unit of analysis to the freshmen/sophomore differences that were available from this cross-sectional study.

The use of more meaningful instrumentation would strengthen this type of research effort. While the use of nationally-normed tests provide the advantage of instruments with proven track records in the field, these tests do not take into account the idiosyncrasies of a specific sample. Many times the wording or item content is not appropriate for local use. An instrument developed in-house would therefore allow for a more precise measure of the affective area of research interest.

It is possible that greater change might have been observed for subscales had the range of responses allowed for more variation. A six-point scale was used on the SCS and a very restrictive four-point scale on the API.

There is also evidence that a "ceiling effect" is in operation which is preventing a greater demonstrated difference in some freshmen/sophomore ratings. In several cases, the subscales with the highest freshmen ratings demonstrated the smallest differences.

Larger sample sizes would allow more reliable sub-population analyses, such as more detailed curriculum comparisons than the approach used in this study.

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APPENDIX A

Selection Process for Instruments Used

The Institutional Effectiveness Task Force and its Subcommittees, through the course of extensive meetings, developed lists of indicators, that is, behaviors, attitudes and skills, which could be used to determine to what extent CCP is effective. These extensive lists of indicators were then put in priority order. The Institutional Effectiveness Steering Committee was then left with the task of determining how to measure these indicators. The decision was reached to begin with measures which already exist. The Steering Committee recognized that a great deal of time and effort would be required to develop new measures. At the same time, we recognized that we had to test out the indicators themselves to ascertain if, in fact, they could tell us anything of significance about the College.

Educational Testing Service (ETS), in Princeton, New Jersey, serves as a repository for tests and test information. We obtained from them copies of appropriate test bibliographies and, from these lists, selected those instruments which seemed 1) to address the indicators in which we were interested, 2) to be designed for the appropriate level, 3) to be relatively up-to-date and, 4) to have technical documentation. When this process was completed, hundreds of tests remained. The Steering Committee then arranged to visit the Test Collection Library at ETS to examine this group of instruments.

Closer examination of each instrument and its technical manual allowed us to eliminate many of them. Some required far too much time to administer; some were extremely expensive; some had been developed and used only with very small and inappropriate groups; some had unconvincing documentation; some seemed not to measure what they professed to measure; and some had extremely sophisticated reading comprehension levels. We now were left with about a dozen tests to consider.

Upon our return to CCP, we ordered specimen sets of those scales, surveys and tests in which we were still interested. When they arrived, each member of the Steering Committee reviewed them at great length. We then met to discuss our evaluation of the instruments and to select those which could be administered in the time and manner which we had chosen for this study. We agreed, after this entire process had been completed, that none of the instruments did exactly what we wanted. However, a combination of measures seemed to approximate the instrument for which we were looking. Therefore, albeit with reservations, we selected the Self Concept Scale, from Dallas Educational Services and the Self Concept, School Perception, and Student Self scales from Soares Associates.

The process of trying to select an instrument to measure constructs which we determined were important was both frustrating and edifying. Our conclusion is that, for our purposes, in the future we will probably need to invest the time, money, and energy to develop our own instrument(s) to be used in non-cognitive assessment.

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